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EG&G
Data Products Group
35 Congress St.
Salem, Mass. 01970

Thank you for your interest

The information you recently requested is enclosed. Additional information is only a phone call away (617-745-3200). We are pleased to be of service to you. So that we may be of greater service to you in the future, will you kindly complete and return the attached post card.

Director of Marketing

EG&G
DATA PRODUCTS GROUP

A brief word about EG&G

Unlike most new companies in the computer field, EG&G represents over 32 years of corporate experience.

EG&G has approximately 5,000 employees throughout the world, was first organized in 1938, and now has sales in excess of one hundred million dollars. The Company specializes in developing sophisticated electronic systems for various government agencies as well as marketing commercial electronic products to original equipment manufacturers and to end users.

Name _____

Position _____

Dept./Div. _____ Company _____

Address _____

This EG&G 832 Data Interface information is needed for

- Immediate possible application ☐
- Long range planning ☐
- Reference material ☐

Add my name to your mailing list ☐

The nature of my organization's product or service can be described briefly as: _____

EG&G

DATA PRODUCTS GROUP

Now the mini-computer of your choice can be interfaced simply, quickly and economically, to tape drives, rotating memories, displays, modems, printers or any instrument or device your application demands

The new EG&G 832 Data Interface* is the world's first universally compatible interface for any mini-computer and all peripherals

* Pats. pending; an EG&G Trademark

Never before such hardware compatibility, software simplicity, and system flexibility.

Complete freedom of choice

The EG&G 832 Data Interface makes system interfacing completely hardware independent of the host computer. You're free to select the computer, peripherals and other system components that best fit your needs . . . at reduced hardware and software costs. In fact, with multi-processor systems, it's easy to use computers of different types efficiently.

The EG&G Data Interface services different types of peripherals by means of as many as 8 plug-in cards. Each card can service several peripherals of the same type. For example, four or more CRT displays may be interfaced with the computer by a single card. The other seven cards could service such I/O devices as modems, hardcopy devices, rotating memories, A-D/D-A converters, digital transducers, relay banks and satellite computers . . . all without individual controllers.

Simpler hardware and software

The EG&G Data Interface makes all peripherals appear similar logically to the computer, simplifying executive software and minimizing computer hardware requirements. Since peripheral devices are now computer-independent, different host computers may be used without reinterfacing the peripherals. Peripheral device cards can be modified, added or removed with minimum software reconfiguration without affecting other peripheral devices. The seven I/O commands in the vocabulary of the Data Interface simplify and greatly reduce software requirements.

The 832 is supplied with a Model Executive from which any particular system executive program may be written. The Model Executive provides for real-time control of all the peripherals and services all real-time interrupts with minimal effort on the part of an application program. Its design is modular in structure, thereby facilitating modifications, additions and deletions of its parts with relative ease. New peripherals may be added to an application system by adding only peripheral device driver routines unique to the device. The Model Executive provides interrupt handling, initialization, file opening, file closing, data transfer, priority management, file positioning, and progress monitoring.

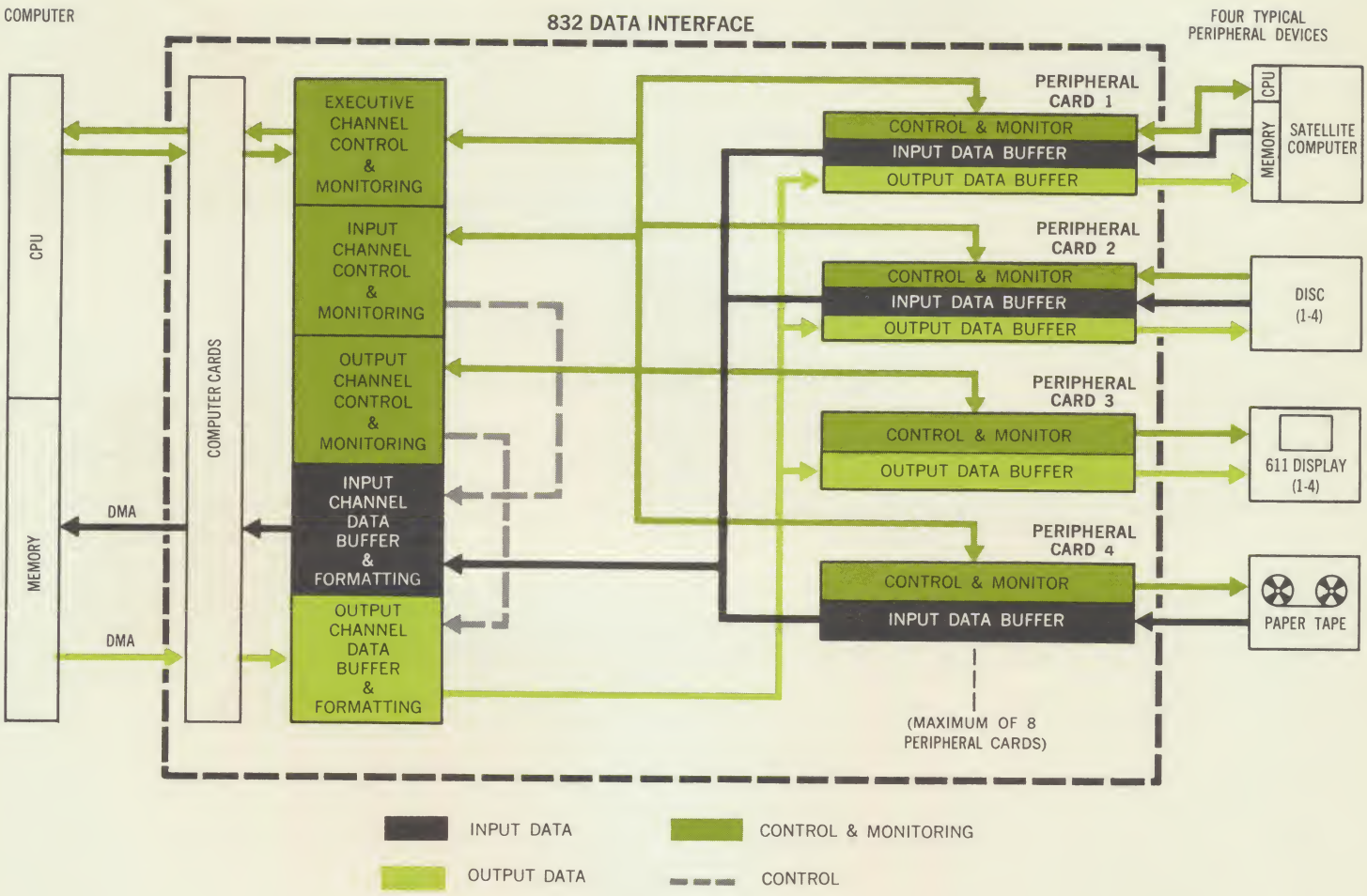
High I/O transfer speed

Transfer time within the EG&G Data Interface is 600 nanoseconds, fast enough for the fastest computers. Simultaneous interlaced input and output data transfer is accomplished to and from the computer core at core speed. The computer's high transfer speed is maintained unimpaired through the use of parallel transfers. Moreover, data registers in the peripheral cards minimize "waiting time" by computer or peripherals. Thus, the computer spends more time computing and less time supervising transfer of data.

Multi-process system capability

The EG&G Data Interface makes possible I/O system configurations which, up until now, were not feasible because of cost and complexity. Peripheral cards, capable of handling words as large as 32 bits, perform operations normally requiring expensive computer mainframe expansion — display control, multiple capstan tape control and the like. Devices other than standard computer peripherals may be easily interfaced. Spectrometers, pulse-height analyzers, shaft-angle encoders and scanning ADC's are some examples.

EG&G 832 DATA INTERFACE TYPICAL BLOCK DIAGRAM



The new EG&G 832 Data Interface incorporates three major functional sections: the computer interface, the commandable executive structure and the peripheral interface

Substantial cost reductions

The EG&G standard product approach to data channel interface design saves valuable engineering time . . . cuts software and hardware costs . . . enables a small computer to implement systems previously requiring a computer with a much larger I/O structure.

Computer Interface

This section couples the Data Interface through one or two plug-in cards to any digital computer having word length from 8 to 18 bits. The computer must provide: one position on the computer's party-line or program I/O bus, one direct memory access or data break port and one level of interrupt. Automatic DMA channel transfer, under supervision of the 832, achieves maximum throughput with minimum computer time devoted to I/O operations.

Commandable Executive Structure

This section consists of four standard plug-in cards which contain the 832 executive micro-programming plus everything peripheral and computer interfaces have in common. It handles all commands for data transfer between computer and peripheral in either direction as well as interrupts. It's this section's ability to execute seven commands from the computer that makes the computer and the peripherals completely independent of each other.

The seven generic commands, which simplify soft — ware requirements and reduce software costs, are:

Output Operation — Sets up output block transfer from the computer to a device card; computer address, device address, precision and word count may be specified.

Input Operation — Sets up an input block transfer from a device card to the computer; computer address, precision and word count may be specified.

Take Peripheral Sub Address — Used to deliver a device address to a device card preparatory to setting up a transfer (for example, to position a head on a disc).

Interrupt Enable Profile — Mask to enable device card requests for service, and permit other DI interrupts.

Take Control Bits — Sends 6 parallel control bits to a device card.

Sense Device — To sense 12 parallel device card conditions.

Status Request — To check status of DI executive structure; word counts, current computer addresses, etc.

Peripheral Interface

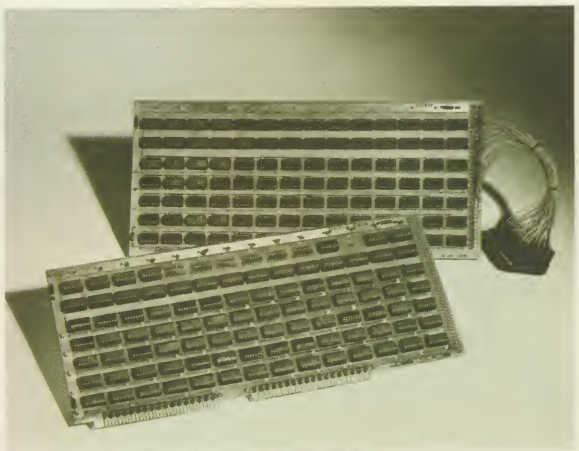
This section contains up to 8 peripheral cards which are independently connected to the executive structure. Each card may handle several peripherals of the same type.

In addition to 32-bit input and output channels, each card has a maskable request for service interrupt line. Such requests appear only when data is loaded into the card's data register. This register provides one level of buffering to smooth real-time response.

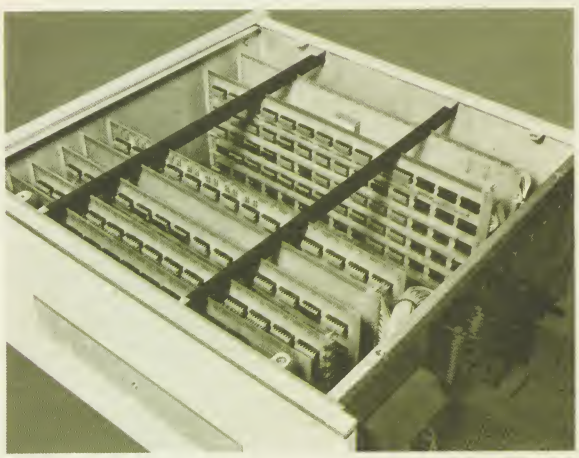
Each card has 6 parallel control lines and 12 parallel sense lines. It may also have 7 parallel interrupt lines. A sub-address may also be supplied to each card to sub-address peripherals, sub-address several connected devices, mask control bits, etc. Control bits, sense lines, interrupt profiles, etc., are always in parallel to increase computer efficiency.

Since logic common to all peripherals is contained within the executive structure, cards are simple in design and less expensive than conventional controllers. Cards are available for rotating memories, magnetic tape, paper tape, teletypes, display terminals, relay banks, modems and a wide range of instruments including unique devices.

The EG&G 832 interfaces any mini-computer and all peripherals.



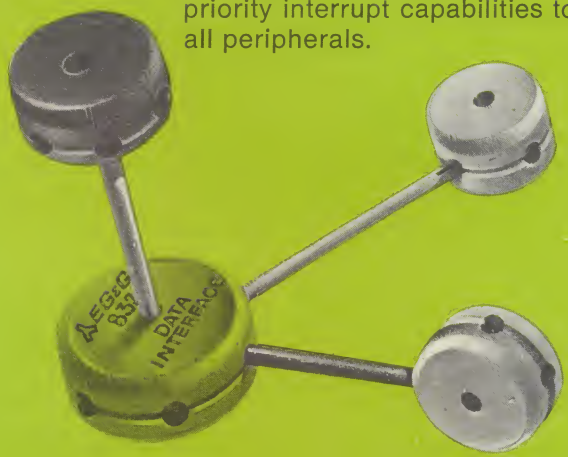
Each plug-in peripheral card may handle several peripherals of the same type.



Standard cards enable economical system configuration or expansion.

Couples any mini-computer to any peripheral, even special one-of-a-kind sensors and terminals.

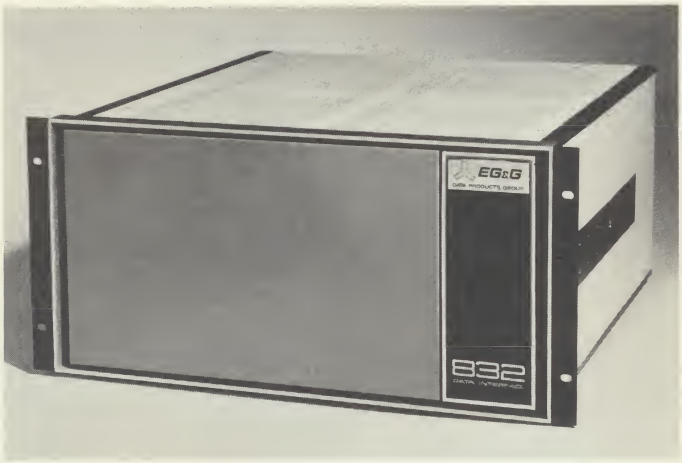
Provides block transfer and priority interrupt capabilities to all peripherals.



With the 832 you can now configure a system with the best choice of mini-computer and peripherals, simply and economically

Accommodates any 8 types of peripherals concurrently . . . services peripherals of the same type with a single peripheral card.

Multiplies any mini-computer's I/O hardware capability by a factor of 8 or more without adding expensive mainframe options.



EG&G 832 Data Interface

SPECIFICATIONS

Number of device classes accommodated by any 832 1-8

Channel transfer speed ..... 600 nsec

Host computer requirements ..... 8 to 18-bit word length, one address on program I/O bus, one DMA port, one level of interrupt.

Command set ..... 7 Commands

Peripheral card capabilities:

Input channel width ..... 32 bits for each peripheral card

Output channel width ..... 32 bits for each peripheral card

Interrupts on input operation ..... 7 for each peripheral card

Sub-address ..... (one computer word)

Control lines ..... 6 for each peripheral card

Sense lines ..... 12 for each peripheral card

Service request ..... One, maskable

Mechanical:

Width ..... standard 19″ rack mountable

Height ..... 8¾″

Weight ..... approximately 50 lbs.

Power requirements ..... 110/220V AC, 60 cycle, 3.5 amps. max.

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35 Congress Street, Salem, Massachusetts 01970